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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,235	01/04/2000	ALI NAJIB SALEH	M-7165-3P	1418

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EXAMINER

LEE, TIMOTHY L

ART UNIT

PAPER NUMBER

2697

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/478,235

Applicant(s)

SALEH, ALI NAJIB

Examiner

Timothy Lee

Art Unit

2697

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9,36 and 46-61 is/are rejected.
- 7) ☒ Claim(s) 10-35 and 37-45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 1400. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 46-48, and 54-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Basso et al. (US 6,370,119).

4. Regarding claims 1, 46, and 54, Basso et al. discloses a method and system for determining the optimal path for routing a communication in a communication network (a method of finding a path in a network). See Abstract. Fig. 1 discloses a communications network with a plurality of nodes and a plurality of links (comprises a plurality of nodes and a plurality of links). Fig. 4 discloses a routing table, which contains information for where the optimum routes are stored. See also col. 6, lines 6-16. Fig. 3 discloses a flow chart of the path computation procedure (generating at least one path cost data set). See also col. 5, lines 53-67, and col. 6, lines 1-6. After computation of optimal paths is complete, the optimal path from the

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predefined source node to the predefined destination node will be retrieved from the routing table at the table entry corresponding to the destination node (a minimum-hop path and a minimum-cost path can be determined from at the path cost data set). See col. 6, lines 6-16. The shortest path from a source node to a destination node will be the path having the smallest cumulative cost, i.e., the smallest sum of the costs of all the links of the path. Examples of typical cost criteria are the minimum hop count and the minimum path length (a minimum hop path represents a minimum number of hops; minimum cost path having a minimum cost). See col. 1, lines 25-29. If the system is a computer system, it is inherent that a processor exists.

5. Regarding claims 2, 3, 47, 48, 55, and 56, as mentioned previously, the optimal paths are stored in the routing table and later retrieved to determine the minimum-hop/minimum-cost path (storing path cost data in a path storage area such that they can be accessed). See col. 6, lines 6-16. It is inherent that the path storage area is allocated if the method or system is to update the table with new values when a new optimal path is found (allocating path storage area in a data structure).

6.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-8, 49-53, and 57-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basso et al. in view of Busche (US 5,805,593).

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9. Regarding claims 4, 49, and 57, Basso discloses a routing table with the node_ID defining the rows, and a table inherently contains rows and columns, but Basso et al. does not expressly disclose having the table arranged so that columns correspond to a given hop count. See Fig. 4 for routing table structure. Busche discloses a table that is sorted by hop count. See Fig. 2, and col. 4, lines 12-16. It would have been obvious to a person of ordinary skill in the art at the time of the invention to set the columns in the table disclosed by Basso et al. so that they correspond to number of hops. One of ordinary skill in the art would have been motivated to do this because aligning the columns by hop count is just another way of organizing the connections that exist in a network.

10. Regarding claims 5, 50, and 58, neither Basso et al. nor Bucsche expressly discloses traversing the rows and storing path information representing a minimum-hop path, but it would have been obvious to a person of ordinary skill in the art at the time of the invention to traverse the rows to find minimum-hop path information. One of ordinary skill in the art would have been motivated to do this because traversing a row can be easily accomplished to find a minimum hop number.

11. Regarding claims 7, 52, and 60, neither Basso et al. nor Bucsche expressly discloses identifying a minimum cost column, but it would have been obvious to a person of ordinary skill in the art at the time of the invention to identify a minimum cost column. One of ordinary skill in the art would have been motivated to do this because identifying a minimum cost column would reduce the costs incurred on the system.

12. Regarding claims 6, 8, 51, 53, 59, and 61, Basso et al. discloses that the source node is listed in the first column of the routing table found in Fig. 4. See also col. 6, lines 43-60.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noven (US 5,884,297) in view of Peterson et al. (US 6,504,845). Noven discloses a system and method for the efficient execution of interleaved look-up and edit request to a connection table (path table). See col. 2, lines 35-40. Inherently, a table consists of rows and columns. The network disclosed in Fig. 1 contains a plurality of nodes and a plurality of links. Any node can be chosen as the root node to start. Noven also discloses that the entire table is traversed during the scanning process. Noven does not expressly disclose that this is done column by column. Peterson et al. discloses that each column is processed individually until the time for another transmission is to take place, when the next column is processed. It would have been obvious to a person of ordinary skill in the art to scan the connection table of Noven in a column by column fashion. One of ordinary skill in the art would have been motivated to do this because scanning a table column by column is an efficient way of traversing a table of connection information.

14. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Busche. Busche discloses a table that is sorted by hop count. See Fig. 2, and col. 4, lines 12-16. The path vector described in the claims can be considered the same as a table because it contains rows. Fig. 1 discloses a network with a plurality of nodes and links. In that network, the root node is "B", which is where the path begins. Busche does not expressly disclose processing each row at a every hop, but it would have been obvious to a person of ordinary skill in the art to process each row with each hop. One of ordinary skill in the art would have been motivated to do this because with each new node that is hit, it makes sense for efficiency sake to check what the shortest distance to the next node will be, and checking the table row by row is one way of accomplishing this.

Allowable Subject Matter

15. Claims 10-35 and 37-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bertin et al. (US 6,400,681), Bertin et al. (US 5,687,167), Rahnema (US 5,596,722), Stiller et al. (US 6,130,881), and Brady (US 6,041,049) disclose ways of finding and storing minimum hop and minimum cost data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703)305-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-9420 for regular communications and (703)746-9420 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL
February 5, 2003


RICKY NGO
PRIMARY EXAMINER